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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/802,606	03/17/2004	David M. Ziemann	14846-54	8921
28221	7590	09/08/2006	EXAMINER	
DOCKET ADMINISTRATOR LOWENSTEIN SANDLER PC 65 LIVINGSTON AVENUE ROSELAND, NJ 07068			LEWIS, CHERYL RENE	
			ART UNIT	PAPER NUMBER
			2167	

DATE MAILED: 09/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/802,606

Applicant(s)

ZIEMANN ET AL.

Examiner

Cheryl Lewis

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 March 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 3/17/04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

### DETAILED ACTION

1. Claims 1-30 are presented for examination.

### INFORMATION DISCLOSURE STATEMENT

2. The information disclosure statements filed on March 17, 2004, complies with the provisions of MPEP § 609. They have been placed in the application file, and the information referred to therein has been considered as to the merits.

### *Claim Rejections - 35 USC § 102*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-30 are rejected under 35 U.S.C. 102(b) as being anticipated by Banning et al. (Pat. No. 5,471,613 filed August 11, 1994, hereinafter Banning).
5. Regarding Claim 1, Banning teaches a tree structure representation of an sql clause.

The method and associated system for a tree structure representation of an sql clause as taught or suggested by Banning includes:

identifying a set of trees in the collection of tree data structures (col. 3, lines 13-37), each tree in the set of trees having a same structure (col. 3, lines 50-67, '...tree

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structure according to the present invention for representing the logical arrangement (A OR B OR C) AND (D AND (E OR F)). In contrast to the Boolean factor tree, note that three leaves, A, B and C, extend from OR node'); forming a pattern having the same structure as each tree in the set of trees (col. 4, lines 1-61, '...SQL WHERE clause defined in FIG. 4C can be created, according to the preferred practice of the invention, by manipulation of either the SQL statement in subwindow 22 or the tree structure in subwindow 21. '); and processing the pattern (col. 4, lines 1-61).

6. Regarding Claims 2, 9, 17, 20, 24, and 27, Banning teaches the pattern is processed in lieu of processing each tree in the set of trees (col. 4, lines 49-61, 'FIG. 5B shows the linking of two predicates through a logical AND operator, and the further addition of another predicate to reach the stage depicted in FIG. 5C.').

7. Regarding Claims 3, 10, and 28, Banning teaches processing the pattern comprises applying a query tree to the pattern (col. 4, lines 1-61).

8. Regarding Claims 4, 14, 21, and 29, Banning teaches the pattern comprises applying an extend operation to the pattern (figure 5H, 'SALARY > 10000').

9. Regarding Claims 5, 15, 22, and 30, Banning teaches the pattern comprises applying an intersect operation to the pattern (col. 3, lines 50-54, '(A OR B OR C) AND (D AND (E OR F))').

10. Regarding Claims 6, 11, 19, and 26, Banning teaches storing the pattern in a computer-readable memory (col. 2, lines 58-61); storing the leaf node of each tree in the set of trees in a computer-readable memory (col. 2, lines 58-61); and a leaf node having a value (col. 3, line 53, '...three leaves, A, B, AND C...').

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11. Regarding Claims 7 and 12, Banning teaches the pattern is stored in lieu of storing the same structure of each tree in the set of trees (col. 2, lines 58-67).
12. Regarding Claim 8, Banning teaches partitioning the collection of tree data structures into disjoint sets of trees (col. 3, lines 50-67, '...tree structure according to the present invention for representing the logical arrangement (AOR B OR C) AND (D AND (E OR F)). In contrast to the Boolean factor tree, note that three leaves, A, B and C, extend from OR node'), each set of trees comprising trees of a same structure (col. 3, lines 13-37); forming a set of patterns, each pattern corresponding to one of the set of trees and each pattern having the same structures as its corresponding set of trees (col. 4, lines 1-61, '...SQL WHERE clause defined in FIG. 4C can be created, according to the preferred practice of the invention, by manipulation of either the SQL statement in subwindow 22 or the tree structure in subwindow 21. '); and processing the set of patterns (col. 4, lines 1-61).
13. Regarding Claim 13, Banning teaches each distributed processor processing one or more of the patterns in the set of patterns (col. 2, lines 1-67).
14. Regarding Claim 16, the limitations of this claim have been noted in the rejection of claim 1 presented above. In addition, Banning teaches a database component operative to maintain a database comprising the collection of tree data structures (col. 2, line 66) and processing component communicatively connected to the database component (col. 2, lines 58-67).
15. Regarding Claims 18 and 25, the limitations of this claim have been noted in the rejection of claim 3 presented above. In addition, Banning teaches an input component

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connected to the processing component (col. 2, lines 58-67) and receiving information from the input component (col. 2, lines 58-67).

16. Regarding Claim 23, the limitations of this claim have been noted in the rejections of claims 8 and 16 presented above. It is therefore rejected as set forth above.

#### **NAME OF CONTACT**

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cheryl Lewis whose telephone number is (571) 272-4113. The examiner can normally be reached on 6:30-3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Cottingham can be reached on (571) 272-7079. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

(571) 273-4113 (Use this FAX #, only after approval by Examiner, for "INFORMAL" or "DRAFT" communication. Examiners may request that a formal paper/amendment be faxed directly to them on occasions.).

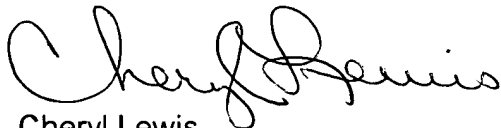
Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist/ Technology Center (571) 272-2100.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>.

Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read "Cheryl Lewis". The signature is fluid and cursive, with the first name "Cheryl" written in a larger, more prominent script than the last name "Lewis".

Cheryl Lewis  
Patent Examiner  
September 5, 2006